

THE ARCO RAYS SYSTEM



See Arcolite for Colors



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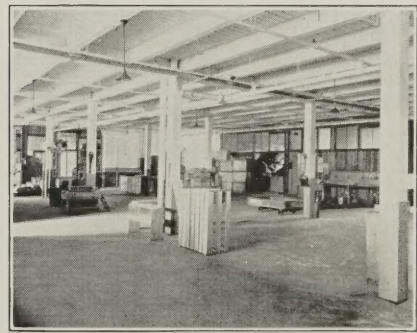
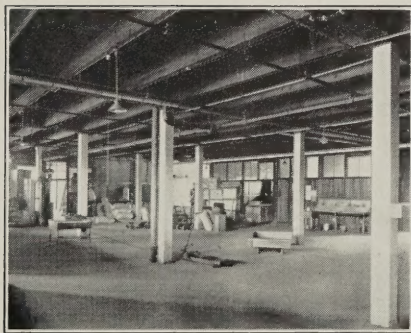
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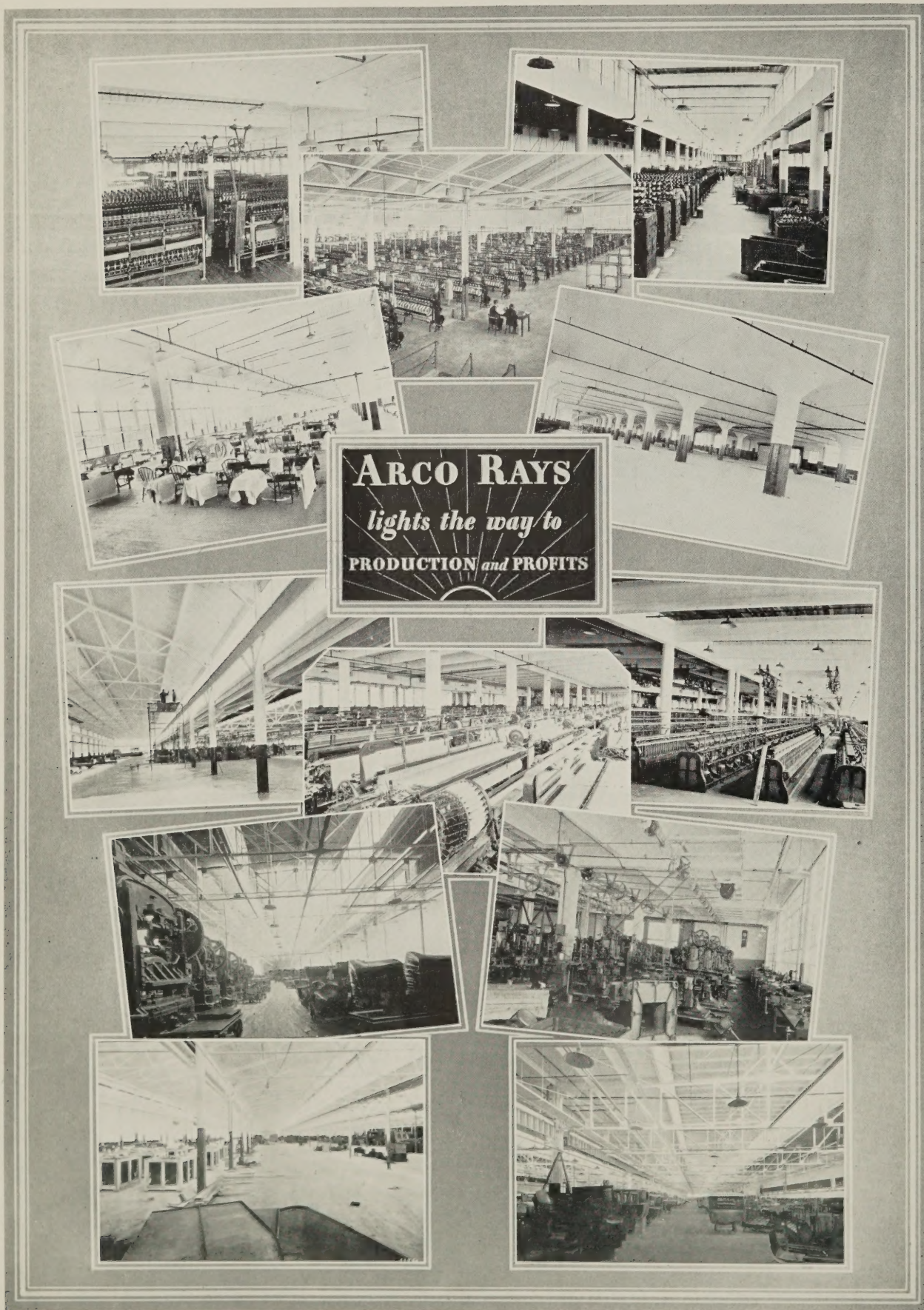
A REVIEW of industrial history—reconstruction of the picture as it appeared in the early nineteen hundreds—discloses the pioneering work done by so many industrial plants in the cause of better working conditions, sanitation, accident prevention and better lighting.

White has always been a symbol of sanitation and cleanliness. It was natural therefore that the trend towards improvement in working conditions, health, sanitation and efficiency throughout the industry should include white paint as a vitally important factor.

Mill white paints for industrial interiors found early acceptance in textile mills, food product plants and dairies—first in the cleaner type industrial operation, and then rapidly growing in acceptance in the heavier industries, in industrial plants and institutions of all types.

Arco has contributed much to the plan of improved lighting, industrial efficiency and sanitation. Arco Rays Mill White Paints have been employed with utmost satisfaction by industrial institutions from coast to coast. Arco Rays is recognized and accepted as a high standard of quality by foremost industries, engineers and architects.





The UTILITY of WHITE PAINT for INTERIOR USE

ARCO RAYS was developed, first of all, for efficiency in light diffusion. This quality is necessary in all installations. It was made to knit to any surface—brick, stone, concrete, metal or wood—so that it would be adaptable to every interior. It was made scale proof and permanent so it would endure repeated cleaning.

These qualities made it practical for every industrial purpose without change. On any surface, and regardless of the trying conditions peculiar to many industrial interiors, it retains its even, enduring surface.

With the attainment of this result, the product—both as to materials and process of manufacture—was subjected to such refinement that it emerged in its final form so smooth and uniform that it was enthusiastically accepted even for much finer uses than those found in the industrial field.

Proof of these statements is found in its wide application on all types of buildings—from foundries and warehouses to libraries and schools.

In every case and under every condition Arco Rays has stood the tests of time and continued observation.

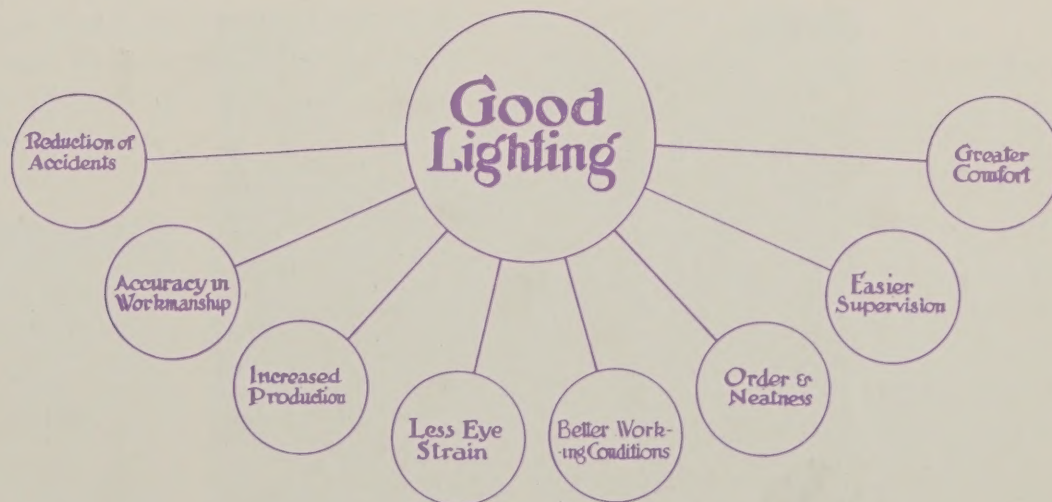
Engineers and efficiency experts—with accurate cost data at their finger tips—specify it without hesitation where trying shop conditions render durability second only to light-diffusing efficiency.

Architects specify it as a beautiful and lasting finish for formal interiors where careful attention to the reflection of either daylight or artificial illumination is demanded.

Consider these varying applications and the fact that they are world-wide in their scope and you will appreciate why Arco Rays is a product that conforms fully to the Arco Ideal.

SCIENTIFIC MEASUREMENT OF LIGHT REFLECTION VALUES SHOWS THE FOLLOWING TABLE OF PERCENTAGES OF LIGHT REFLECTION AS APPLIED TO PAINT COATINGS:

White	84 %	Light Gray	53.6 %
Light Cream	70.4 %	Aluminum	41.9 %
Ivory	64.3 %	Brown	23.6 %
Yellow	60.5 %	Dark Red	14.4 %
Buff	55.4 %	Dark Green	11.6 %
Light Green	54.1 %	Dark Blue	9.3 %



The KEYSTONE of VALUE in MILL WHITE PAINTS

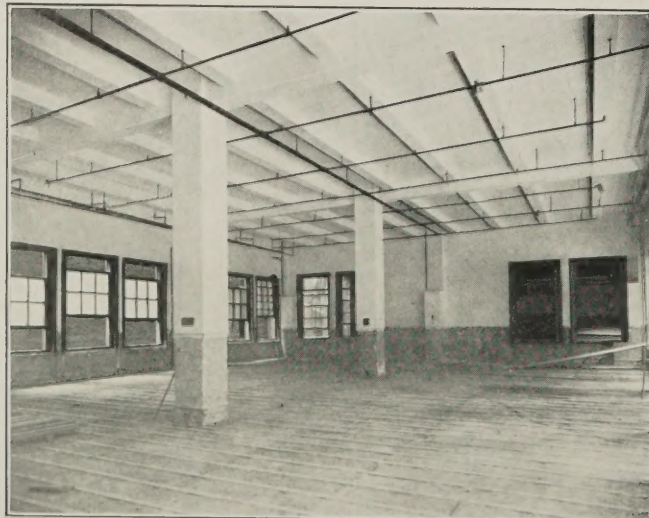
THE leading brands of mill white paints vary but slightly in pigment formulation. The accepted pigment bases are lightproof lithopone, titanox and zinc oxide.

With the acceptance of standard types of pigmentation in mill white paints the ultimate determination of quality and suitability must then be gauged by vehicle formulation. The buyer of mill white paints should have definite proof that the manufacturer is capable of producing non-yellowing vehicles, because in no other way can he be assured of satisfaction and paint economy.

Paint making requires more than a paddle and a bucket. Scientific manufacturing processes go far beyond the installation of mills and mixing machinery. It requires correct evaluation of pigments and vehicles and exhaustive research work. Guesswork—early acceptance of accelerated laboratory tests—or suitability based on short-time service in the field, are some of the pitfalls encountered in the manufacture of mill white paints.

The mill white paint of high quality—the product that offers to the buyer white retention value over maximum periods—is not found through the process of short-time tests and developments. The successful manufacture of mill white paints is one of the longest roads in paint history. It was only through years of observation, study and improvement that mill white paints were brought to their highest point of efficiency.

Arco Rays Mill Whites have withstood the test of time for more than a quarter of a century. They are definitely service proved and as such enjoy wide acceptance and recognition as a leader in the field of mill white paints.



ARCO RAYS MILL WHITE VEHICLES

THE vehicle or liquids of Arco Rays are the secret of the product's lasting whiteness, and therefore deserve more than passing consideration.

Arco prides itself on its facilities and years of experience in the treatment and bleaching of oils—especially the liquids entering their mill whites, which not only give them a beautiful original white appearance, but keep them from yellowing or graying with age.

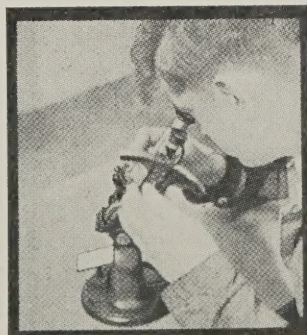
Years ago in the early history of paint and varnish making, raw oils were put into shallow tin lined boxes with glass covers, then exposed to the sunlight. This had a decided bleaching effect.

The purpose of this process was to remove the inherent coloring matter of vegetable oils, consisting of red, green, yellow, etc., better known to chemical engineers as Chlorophyll, Zanthophyll, Erythrophyll, etc. Some of these coloring properties still clung to the oils even after the heavy particles or "foots," had been removed. This left a reddish cast to the oils which made it difficult to use them successfully in the manufacture of light varnishes or white enamels.

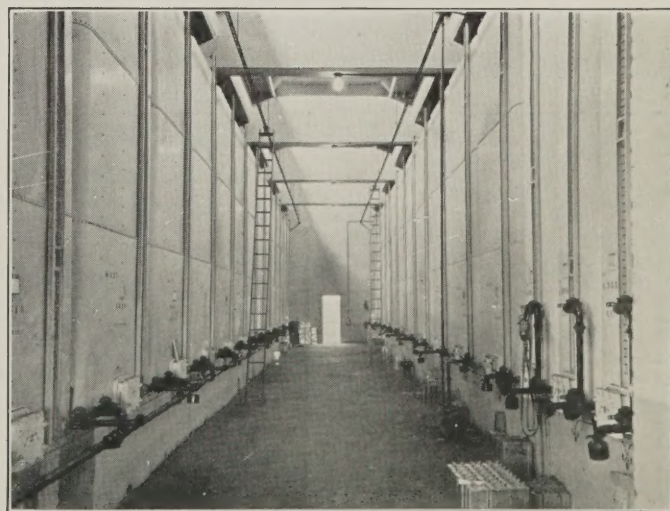
With the development of the varnish industry a more reliable process of bleaching was adopted. This new method of bleaching was accomplished by means of chemicals, which neutralize the coloring matter and precipitate it to the bottom of the tank. It practically eliminates all coloring properties from the raw oil, when handled properly, and is much faster than the old method.

But commercial refiners, who were the first to adopt this method, refined oils on the basis of maximum yield instead of maximum quality. This became a serious problem for the paint and varnish manufacturer as the quality of the oils was in many instances, not much better than that secured by the obsolete method. The lack of uniformity made it next to impossible to rely on commercially bleached oils to produce light colored varnishes or make white paints or enamels.

As a result of this condition The Arco Company installed its own bleaching equipment with a view of producing higher quality products for the consumer.



This instrument measures the uniformity and purity of liquids.



Battery of Storage and Ageing Tanks.

Oils are purchased in the raw state and bleached from an amber color to a crystal white. This bleaching process removes all impurities, dirt and acids and decidedly improves the wearing qualities of the finished material. All oils, after bleaching, are filtered to leave them absolutely pure and clear.

As a further example of the value of the proper vehicles, as applied to the white retention value of the finish, the following reproduction of panels tested are introduced for evidence.

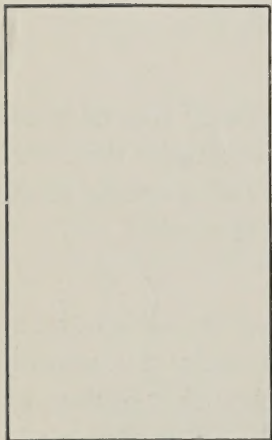
The upper panels represent: Number 1 Arco Rays. Numbers 2, 3 and 4 other well-known brands of Mill Whites. All panels were of wood, primed and given one coat of the respective paints.

Panels were subjected to ultraviolet rays, humidity and heat, covering a 200-hour period in the test cabinet.

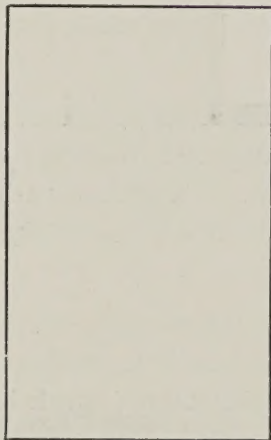
The lower group of panels represent the results of the test. Arco Rays Number 1 is the only finish to remain absolutely white and the remaining three reaching varying degrees of yellowing.

Arco Rays Mill Whites have proved their superior qualities in the most severe tests known to science. Coupled with this stands the service proven value of these products in industrial plants throughout the country for more than a quarter of a century.

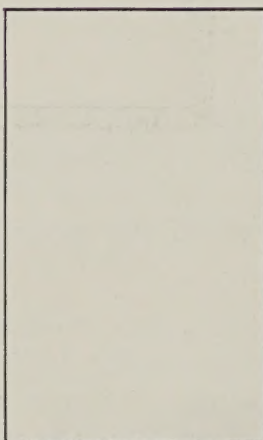
BEFORE THE TEST



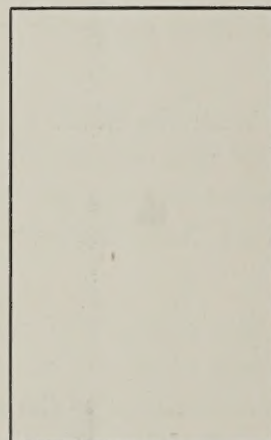
1



2

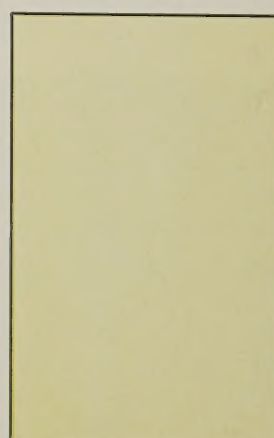
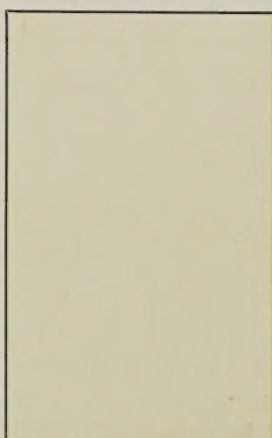
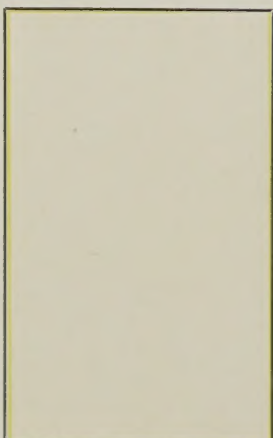
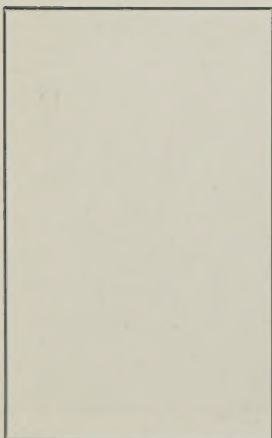


3



4

AFTER THE TEST



HOW WHITE IS
WHITE



?

THIS WHITE FOR EXAMPLE



This is a
Yellowish White

*---contrasted with
other whites it
seems smudged*



It is a poor white where
the utmost in light
reflection is essential.
—Now look at Number
2 through the black
cover.

1



2

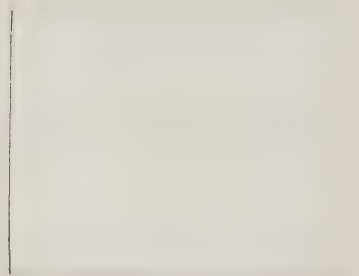
Here is a

Pure White

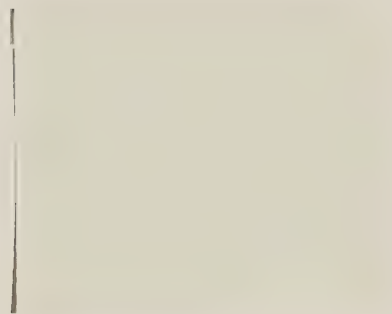
Different you say--

but---

Just have a look at
Number 3 and then turn
back for a contrasting
look at Number 2 again.



This is the PURE
BLUE WHITE of ARCO RAYS



*The highest
light-reflecting
quality for
a Mill White*

3

Note --- How in comparison Number 2
does not now seem as white.

BEHIND THE SCENES

in the making of

ARCO RAYS





THE ARCO RAYS SYSTEM

Arco Rays Gloss

A long oil enamel type finish for interior use in industrial plants and institutions. The smooth tile-like surface of Arco Rays Gloss minimizes dust collection. Extreme elasticity of film insures service over long periods without checking or cracking. Arco Rays Gloss may be washed without injury to the surface. Maximum reflection.

Arco Rays Eggshell

A finish coat of medium luster described as semi-gloss or eggshell, in the same high quality as Arco Rays Gloss. Greater diffusion with less glare.

Arco Rays Flat

A flat finish which insures a smooth, uniform film. Because of its close texture and surface smoothness Arco Rays Flat should not be classed with regular flat white paints. Maximum diffusion with no glare.

Arco Rays Primer (for first coat work only)

A universal priming coat for concrete, brick, tile, metal, wood, wallboard and other interior surfaces. It carries a long oil, alkali-resisting vehicle which provides a solid foundation for finish coats of Arco Rays Gloss, Eggshell or Flat.

Arco Rays Undercoater

A first coat for bare surfaces and undercoater for repaint jobs. May be mixed with Arco Rays Gloss or Eggshell without fear of yellowing. An excellent material for one coat work to be followed later with subsequent coats.

Priming Coat on Plaster

When plaster is finished with mill white system the surfaces should receive a first coat of Arco-tone Wall Primer. This is a special plaster primer which seals small air-checks and prevents alkali burn. It should be followed with Arco Rays Undercoater as intermediate coat and finished with Arco Rays Gloss, Eggshell or Flat as desired.

Arco Flat White Spraying

A one coat white for application on all types of interior surfaces. While it is generally applied by spray method it has excellent brushing qualities. Because of purity of pigments one coat will cover solid even over most dark or discolored surfaces. The durability of the film eliminates early checking, cracking or peeling which is often encountered with the short type one coat flat white paint. Arco Flat White Spraying is used on thousands of acres of industrial interiors every year. It has unusually high covering power which makes for low cost per square.

ARCO RAYS FUME PROOF WHITE ENAMEL

A SPECIAL mill white finish designed for use where abnormal exposure conditions prevail such as heat, humidity and fumes. It is used as finish coat over Arco Rays Primer or Arco Rays Undercoater. Where exposure conditions tend to readily discolor standard mill white finishes, Arco Rays Fume Proof White Enamel will insure satisfactory service.

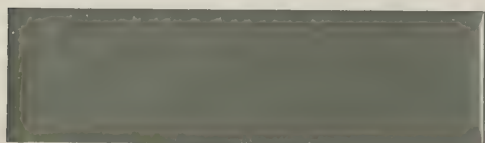
Service records in tobacco plants, weave rooms, paper mills, chemical plants, and other industrial operations where abnormal conditions prevail, have definitely established the high quality and suitability of Arco Rays Fume Proof White Enamel.



ARCO DADO ENAMELS

A high gloss washable finish for the lower or dado areas of walls and pillars. High purity of pigmentation insures full covering one coat over primers. Arco Dado colors have extraordinary washing qualities. The toughness of film insures long life. Made in standard range of colors and supplied also in special or standard shades to meet color requirements of the buyer.

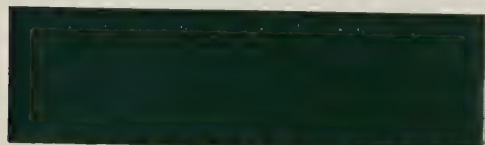
Particularly designed to withstand hard usage and abrasions to which surfaces are subjected.



420 LIGHT GRAY



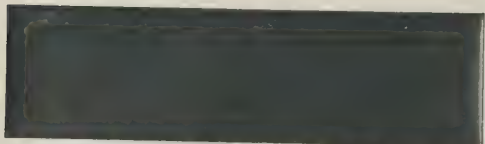
662 LIGHT GREEN



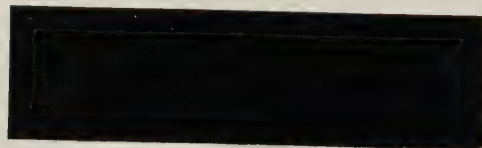
670 MEDIUM GREEN



535 MAROON



422 BATTLESHIP GRAY



902 BLACK



Specify ARCO RAYS



Lighting is a major factor in the operation of relatively small plants and large ones alike. Illumination through-
out the plant is considered as the chief cause of
productivity, safety and fatigue. The modern
plant is a place where light is diffused and reflected
throughout. ARCO RAYS play an important
part in the design of modern lighting systems.

ARCO RAYS will add much toward lighting effi-
ciency in your plant. Because of its proved white
reflective value—its freedom from discoloration
and fading—ARCO RAYS will diffuse and reflect
the light year in and year out with remarkable



Stays White and Stays On

ARCO RAYS FUME PROOF WHITE ENAMEL

A SPECIAL mill white finish designed for use in abnormal exposure conditions prevalent in humidity and fumes. It is used as primer or as finish. Arco Rays Primer or Arco Rays Fume Proof White Enamel will insure satisfactory results in abnormal exposure conditions tend to readily destroy ordinary mill white finishes. Arco Rays Fume Proof White Enamel will insure satisfactory results.



Service records in tobacco plants, textile mills, chemical plants, and other industrial operations where abnormal conditions prevail have definitely established the high quality and suitability of Arco Rays Fume Proof White Enamel.

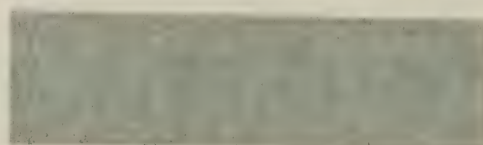
ARCO DADO ENAMELS

A high gloss washable finish for the lower or dado areas of walls and pillars. High purity of pigmentation insures full covering one coat over primers. Arco Dado colors have extraordinary washing quality. The maximum life. Made in standard and special colors and applied also in special or standard shades to meet color requirements of the buyer.

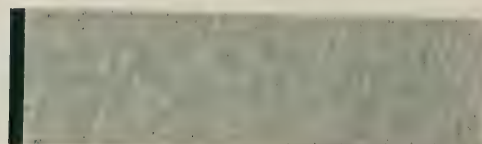
Particularly designed to withstand hard usage and abrasions to which surfaces are subjected.



420 LIGHT GRAY



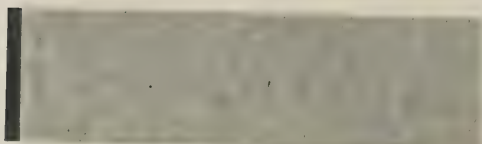
602 LIGHT GREEN



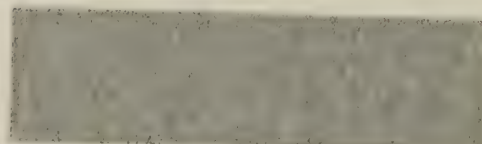
670 MEDIUM GREEN



535 MAROON



022 BATTLESHIP GRAY



902 BLACK



Specify ARCO RAYS



CONCENTRATION of light over relatively small areas, with darkness or poor illumination throughout workrooms, is accepted as the chief cause of eyestrain, inefficiency and fatigue. The modern industrial plant employs diffused and reflected illumination. Mill white paints play an important part in modern industrial lighting systems.

Arco Rays will add much toward lighting efficiency in your plant. Because of its proved white retention value—its freedom from discoloration or yellowing—Arco Rays will diffuse and reflect the light year in and year out with remarkable satisfaction.

Stays White and Stays On

DIRECTIONS FOR USE

Arco Rays Primer

For priming concrete, brick, tile and plasterboard, thin Arco Rays Primer one pint to one quart to the gallon with pure, raw linseed oil (bleached oil for whiteness).

For priming wood and composition wallboard, thin primer from one pint to one quart to the gallon. The thinner to be equal parts of raw linseed oil and turpentine (bleached oil for whiteness).

For priming metal, thin to good brushing consistency with turpentine.

Arco Rays Undercoater

Thin to good brushing consistency with turpentine. Do not thin excessively.

NOTE: Approved turpentine substitute permissible where turpentine is specified.

Arco Rays Gloss, Eggshell

Paint should be applied as received without thinning. Under no circumstances should linseed oil be used for thinning finish coat, as such practice will cause yellowing. If turpentine or approved substitute is used in thinning gloss and semi-gloss finish coat, there is a tendency towards flatting.

Arco Rays Flat

When used as finish coat thin only with turpentine or approved substitute.

Arco Rays Fume Proof White Enamel

Apply as received without thinning, the same manner as Arco Rays Gloss White is applied.

Arco Flat White Spraying

Apply as received or thin up to approximately one quart turpentine substitute to the gallon.

Arco Dado Colors

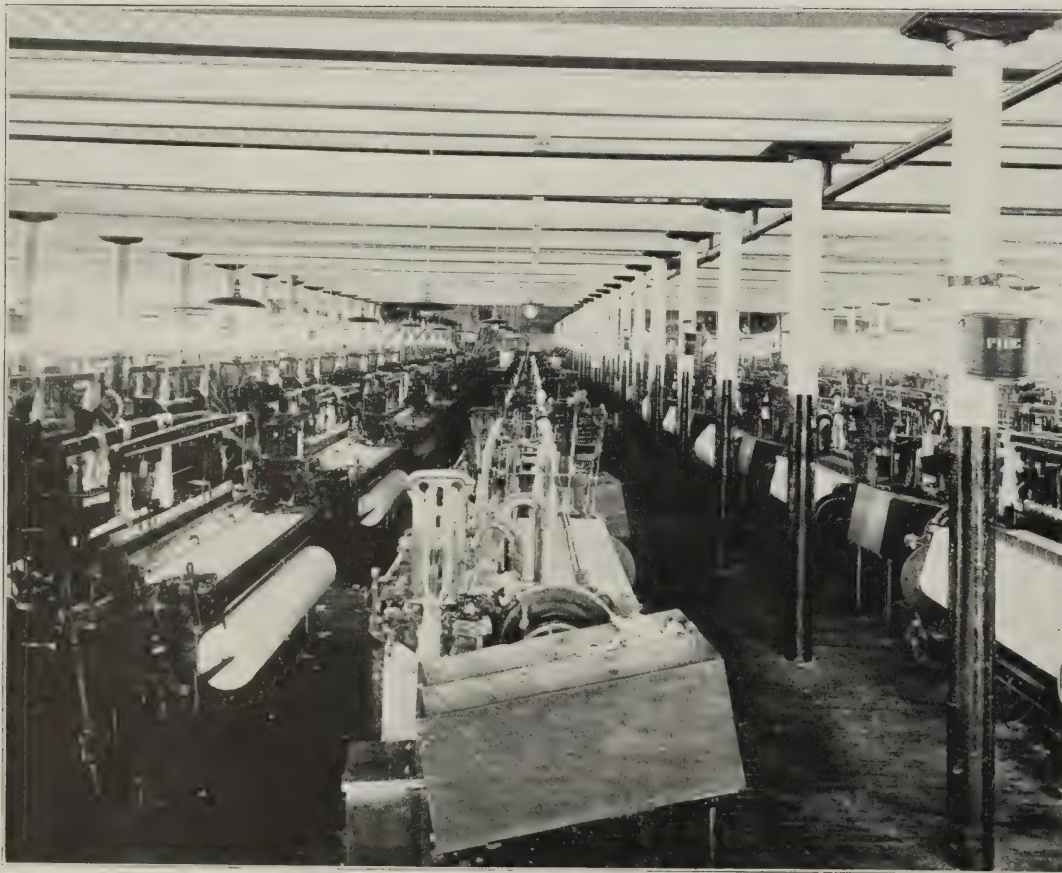
Apply as received without thinning.

COVERING CAPACITY TABLE

	Concrete and Brick	Wood	Metal
Arco Rays Primer	225-250 sq. ft.	300 sq. ft.	350 sq. ft.
Arco Rays Undercoater	250 sq. ft.	300 sq. ft.	350 sq. ft.
Arco Rays Gloss, Eggshell and Flat	250-300 sq. ft.	300 sq. ft.	350 sq. ft.
Arco Rays Fume Proof White Enamel	250-300 sq. ft.	300 sq. ft.	350 sq. ft.
Arco Flat White Spraying	225 sq. ft.	250 sq. ft.	300 sq. ft.
Dado Colors	250 sq. ft.	300 sq. ft.	350 sq. ft.

PARTIAL LIST OF USERS OF THE ARCO RAYS SYSTEM

American Fork & Hoe Co.	W. Charleston, W. Va.	Larsen Baking Co.	Brooklyn, N. Y.
Carbide & Carbon Chemical Corp.	So. Charleston, W. Va.	Waterbury Co.	Brooklyn, N. Y.
Hazel-Atlas Glass Co.	Wheeling, W. Va.	American Radiator Co.	Buffalo, N. Y.
Buhl Public Schools	Buhl, Idaho	Eureka Grammar School	Eureka, Calif.
Imperial Ice Co.	Parkersburg, W. Va.	F. A. Black & Son, Inc.	Philadelphia, Pa.
Diamond Shoe Co.	Brockton, Mass.	Walter Bregler	Norristown, Pa.
Naumkeag Steam Cotton Co.	Salem, Mass.	Campbell Soup Co.	Camden, N. J.
Expert Window Cleaning Co.	Detroit, Mich.	Oliver B. Cannon & Son	Philadelphia, Pa.
J. L. Hudson Co.	Detroit, Mich.	Joseph Hoover & Sons Co.	Philadelphia, Pa.
Sterling Painters	Detroit, Mich.	Eureka High School	Eureka, Calif.
Ternstedt Mfg. Co.	Detroit, Mich.	Jefferson Building	Philadelphia, Pa.
Wolverine Distilleries	Detroit, Mich.	Myers & Watters, Inc.	Philadelphia, Pa.
Independent School District	Buhl, Idaho	Philadelphia Electric Co.	Philadelphia, Pa.
New York Telephone Co.	Albany, N. Y.	Quaker City Cold Storage Co.	Philadelphia, Pa.
G. D. Teetz	Gloversville, N. Y.	Girard Trust Co.	Philadelphia, Pa.
The Borden Co.	New York, N. Y.	Scott Paper Co.	Chester, Pa.
Gillette Rubber Co.	Eau Claire, Wis.	Diamond Match Co.	Oswego, N. Y.
Collingwood Hotel	New York, N. Y.	Elmer J. Doyle	Buffalo, N. Y.
St. Joseph Hospital	Tampa, Fla.	Columbia Terminals Co.	St. Louis, Mo.
Knickerbocker Ice Co.	New York, N. Y.	Watsonville Un. High School	Watsonville, Calif.
Manhattan Painting Co.	Brooklyn, N. Y.	Wrought Iron Range Co.	St. Louis, Mo.
New York World-Telegram	New York, N. Y.	Washburn-Crosby Co.	South Chicago, Ill.
Binghamton Service & Painting Co.	Binghamton, N. Y.	Rochester General Hospital	Rochester, N. Y.
De Soto Creamery & Produce Co.	Minneapolis, Minn.	The University of Rochester— School of Medicine & Strong Memorial Hospital	Rochester, N. Y.
North American Creameries	Alexandria, Minn.	Adams-Millis Corp.	High Point, N. C.
Crystal Cream & Butter Co.	Sacramento, Calif.	Carolina Cotton & Woolen Mills Co.,	Spray, N. C.
Washburn-Crosby Co.	Minneapolis, Minn.	Clyde Fabrics, Inc.	Newton, N. C.
La Crosse Breweries, Inc.	La Crosse, Wis.	Dixie Leaf Tobacco Co.	Kinston, N. C.
Briggs Mfg. Co.	Highland Park, Mich.	Textile Specialty Co.	Greensboro, N. C.
Chrysler Motor Corp.	Detroit, Mich.	University Consolidated Service Plants	Chapel Hill, N. C.
Detroit Racing Association	Detroit, Mich.	Spenglers Bakery	Lewiston, Idaho
Factory Maintenance Service Corp.	Detroit, Mich.	Cramers Bakery, Inc.	San Diego, Calif.
Salinas Valley Ice Co.	Salinas, Calif.	Snowflake Bakery Co.	San Diego, Calif.
Parker Rust Proof Co.	Detroit, Mich.	Santa Fe Land & Improv. Co.	Los Angeles, Calif.
J. A. Utley	Detroit, Mich.	Holsum Bakery	Phoenix, Ariz.
Winter's Bakery	San Diego, Calif.		
Kozero Bros.	Northampton, Pa.		
Godchaux Sugars, Inc.	New Orleans, La.		
Heedles & Guntersberger	Brooklyn, N. Y.		



THE ARCO COMPANY

PAINTS - VARNISHES - ENAMELS - LACQUERS
CLEVELAND - LOS ANGELES

BRANCHES IN THE PRINCIPAL CITIES ALL OVER THE WORLD

